

REMARKS

Claims 9-13, 20, 30, 32, 34-39 are pending in this application.

Claims 1-8, 14-19, 21-29, 31 and 33 are deleted.

Claim 9 is rewritten in independent form as a main claim.

Claim 20 is amended to limit "cuprous oxide ultrafine particles" recited in the claim to "cuprous oxide ultrafine particles which are in the colloidal state".

Claim 30 is rewritten in independent form as a main claim. In addition, the claim is amended to further incorporate all limitations of claims 31 and 33 therein.

Claim 32 is rewritten in independent form as a main claim.

Claim 34 is amended to depend from the above amended claim 32 in addition to claim 30.

Claims 35-37 are rewritten in independent form

No new matter has been added by way of the above-amendment.

I. Claim Objections

Claim 10 is objected to under 37 CFR 1.75(c), as allegedly being of improper dependent form for failing to further limit the subject matter of a previous claim. Claim 10 defines the "the cuprous oxide ultrafine particles have an average secondary particle diameter of less than 200 nm in the dispersion of cuprous oxide ultrafine particles which is in the colloidal state" and claim 8, which claim 10 is indirectly dependent upon, sets forth "a soft agglomerate of cuprous oxide ultrafine particles having a secondary particle diameter of not less than 0.2 um" (emphasis added). The Examiner finds that this range of the average secondary particle diameter of claim 10 does not further limit the average secondary particle diameter of claim 8.

First, the Examiner will note that the relevant claims have been amended/canceled. Specifically, claim 8 has been canceled and claim 9 has been amended to recite the subject matter of claim 8. Currently, claim 10 directly depends from claim 9. Applicants now respond to the Examiner's objection which is now relevant to the combination of claims 9 and 10.

As is recited in claim 9, as currently amended, the method requires:

- 1) A first step of obtaining a soft agglomerate of cuprous oxide ultrafine particles having an average secondary particle diameter of not less than 0.2 μm ;
- 2) A second step of separating the soft agglomerate from the first solvent; and
- 3) A third step of redispersing the separated soft agglomerate in a second solvent, thereby obtaining a dispersion of cuprous oxide ultrafine particles.

In short, the phrase "a secondary particle diameter of not less than 0.2 μm " recited in claim 9 indicates a secondary particle diameter of the soft agglomerate of cuprous oxide ultrafine particles obtained *in the first step*.

On the contrary, the phrase "an average secondary particle diameter of less than 200 nm" recited in claim 10 of the above indicates an average secondary particle diameter of the dispersion of cuprous oxide ultrafine particles, which is obtained *in the third step*.

Thus, the subject matter of claim 10 further limits the subject matter of claim 9. Reconsideration and withdrawal of the objection are respectfully requested.

II. Issues under 35 USC 112, 2nd paragraph

Claims 5-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite. Applicants respectfully traverse the rejection.

In view of the cancelation of claims 5-7, this rejection is rendered moot.

III. Prior art based issues

The following prior art based rejections are pending:

- (A) Claims 5-13, 20 and 31-39 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Maruyama, US PG-PUB 2005/0069648 ("US '648"); and
- (B) Claims 5-13, 20 and 31-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curtis et al., *Angewandte Chemie, International Edition in English*, 27, (1988), pp. 1530-33.

Applicants respectfully traverse both rejections.

IIIA. Availability of US '648

Applicants note that US '648 is not prior art to the present invention. US '648 is a national phase application of PCT/JP02/13141 which published in the Japanese language as WO 03/051562. In order for US '648 to be available under 35 USC 102(e), WO 03/051562 must have published in the English language. See the flowcharts at the end of MPEP 706.02(f)(1).

Please note, however, that WO 03/051562 (WO '562) is theoretically available under 35 USC 102(a) as of its publication date of June 26, 2003. As such, Applicants note that the Examiner could theoretically reject claims 5-13, 20 and 31-39 under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over WO '562. As such, Applicants now comment on the subject matter of WO '562.

IIIB. WO '562 is not Prior Art to the Present Invention

The Examiner will note that the present application claims priority to Application No. 2002-350998 ("the JP '998 Application") which was filed in Japan on December 3, 2002.

As evidence that the presently claimed invention is earlier than the date that WO '562 is available as a reference, i.e., June 26, 2003, attached hereto are: i) the JP '998 Application in the

original Japanese language; ii) a verified English translation of the JP '998 Application; and iii) a Declaration Under 37 CFR 1.131 by the present inventors.

The Examiner is respectfully requested to review the verified English translation of the JP '998 Application in order to ascertain whether the presently claimed invention is fully supported by the disclosure of the JP '998 Application. However, even assuming *arguendo* that the presently claimed invention is not fully supported by the disclosure of the JP '998 Application, Applicants respectfully submit that the disclosure in the JP '998 Application is sufficient to overcome the specific theoretical rejection based on the WO '562.

In order to remove a reference by showing an earlier invention date, the evidence of "earlier invention" does not have to support the entire invention. It is only necessary to show prior invention of as much as the reference teaches, *In re Rainer*, 156 USPQ 334 (CCPA 1968) or prior invention of something that would render the prior art obvious, *In re Rainer, supra*, *In re Clark* 148 USPQ 665 (CCPA 1966) and *In re Schaub* 190 USPQ 324 (CCPA 1976).

As noted in the Rule 131 Declaration, the present inventors make the following statements:

3. We conceived the invention claimed in the present application and made the invention claimed in the present application before December 3, 2002 as evidenced by the English translation of Japanese Patent Application No. 2002-350998 ...
4. Examples 1-8 of JP 2002-350998 represent laboratory experiments that were actually performed and which were conducted in Japan before December 3, 2002.

As such, there was a reduction to practice of the invention claimed in the present application prior to the date that WO '562 is available as a reference, i.e., June 26, 2003.

The Examiner will note that the only aspect of WO '562 which is relevant to the methods claimed in the present application is Example 19 of WO '562. Example 1 of JP '998 is essentially equivalent to Example 19 of WO '562. As such, the attached verified English translation of JP '998 shows prior invention of as much as WO '562 teaches which is relevant to the present claims. Accordingly, the present invention was prior to the date that WO '562 is available as a reference, i.e., June 26, 2003.

IIIC. Curtis et al do not Render the Present Invention Obvious

As described above, the present invention as claimed in amended claims 9-13 and 20 relate to the method for producing a dispersion of cuprous oxide ultrafine particles, and require the preparation of "cuprous oxide ultrafine particles which are in the colloidal state" via the soft agglomerate of cuprous oxide ultrafine particles. Also, the cuprous oxide ultrafine particles obtained thereby can be used as fillers for electrically conductive pastes, electrically conductive inks and the like in the field of production of printing boards (see page 1, lines 7-11 of the specification).

The method disclosed in Curtis et al. requires using poly(vinyl-2-pyrrolidone) as a stabilizing agent, which is referred to as "PVP", thereby obtain copper fine particles. This is apparent from, e.g., Fig. 5 which shows a monodispersion. Under the circumstances, in the case where the copper fine particles of Curtis et al. which are obtained using PVP as a stabilizing agent are subjected to a heat treatment, the products obtained thereby are an insulator. This is because PVP is difficult to be burned off and PVP itself is insulator. Therefore, the electrically conductive products cannot be obtained according to the method disclosed by Curtis et al.

Thus, it is apparent that Curtis et al. teach away from the present invention, as claimed in claims 9-13 and 20, and therefore, the claims 9-13 and 20 are not made obvious by Curtis et al.

Also, the present invention as claimed in claims 30, 31 and 34-39 relates to the method for producing the specific soft agglomerate of cuprous oxide ultrafine particles. However, Curtis et al. fail to teach or suggest any feature of claims 30, 31 and 34-39.

Based on the foregoing, reconsideration and withdrawal of Rejections A and B are respectfully requested.

Conclusion

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Gerald M. Murphy Reg. No.

Application No. 10/537,097
Amendment dated March 9, 2009
Reply to Office Action of October 8, 2008

Docket No.: 0152-0705PUS1

28,977 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Dated: March 9, 2009

Respectfully submitted,

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Attachments:

- i) The JP '998 Application in the original Japanese language;
- ii) A verified English translation of the JP '998 Application;
- iii) A Declaration Under 37 CFR 1.131 by the present inventors; and
- iv) WO 03/051562.